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Elaboration of a catalogue of measures to decrease touristic climate impact: Developed for the Switzerland Travel Centre UK

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Abstract

"Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems." (Intergovernmental Panel on Climate Change, 2014, p. 2) If emissions continue to rise at the current rate, and together with more frequent and extreme weather events, the consequences would be disastrous. Nine percent of the CO_2 emissions are contributed by tourism, which is considered as one of the main contributor to the climate change. Consequently, tourism plays a significant role in achieving goals to change the climate and to help reduce greenhouse gas emissions. (Scott, et al., 2008, p. 27 & 177)

This study analyses how a tour operator can decrease the touristic climate impact by an elaborated catalogue of measures, whereby each measure is analysed by means of different criteria as to their effectiveness and market acceptance. The measures serve as a basis for recommendations to the Switzerland Travel Centre in London, UK. An approach of literature research and qualitative research, in form of expert interviews, was adopted. The theoretical part of this study points out that the carbon dioxide emissions are at the highest levels and the world hottest global temperatures have been recorded during the last years. At the same time, the tourism industry is worldwide highly sensitive to climate change. Tourism causes both positive and negative changes to the environment, it is therefore important to reduce the negative ones and to adapt to climate change. This research presents specific recommendations for the Switzerland Travel Centre UK, which can be applied in the future to decrease the touristic climate impact.

Keywords: climate change, tourism, CO_2 emissions, measures, Switzerland Travel Centre.

Foreword and acknowledgements

For the last semester of my studies at the School of Management and Tourism at the HES-SO Valais in Sierre, I had the opportunity to go abroad. From February to August 2016, I did an instructive and exciting internship at the Switzerland Travel Centre UK in the heart of London. My company internship supervisor's strong interest in sustainability issues motivated me for choosing a topic for my Bachelor Thesis in sustainability. As tourism causes a lot of CO_2 emissions, especially air travel, and all trends show an immense increase in the future, it is therefore essential for a tour operator to set measures in order to decrease those emissions. As the Switzerland Travel Centre UK does not currently take any such measures into consideration, I decided together with my company internship supervisor to elaborate a project in terms of providing a possibility to customers to help compensate or reduce CO_2 emissions and therefore to reduce the environmental pollution while travelling. It aims on the one hand to help to reduce the greenhouse gas emissions and on the other hand to improve the Switzerland Travel Centre UK's carbon footprint and to give its clients a way to act against the climate change.

The main objective of this paper is to elaborate a catalogue of measures to decrease touristic climate impact of a tour operator such as the Switzerland Travel Centre UK, whereby each measure is analysed by means of different criteria as to their effectiveness and market acceptance. With this research, I intend to give the Switzerland Travel Centre UK, in the end, recommendations, which of the elaborated measures would be the most suitable ones for them and could be applied in the future. A mixed approach including literature research and qualitative research, in form of expert interviews, was adopted. Due to the complexity of the climate change issue and the time restriction, difficulties have occurred in limiting the amount of information and not every measure has been analysed by means of exactly the same criteria while conducting the expert interviews.

At this point, I would like to take the opportunity to say thank you to everybody who facilitated the carrying out of this project. I would like to acknowledge my thesis advisor, Professor Christian Baumgartner, for his advice, his support and his helpful inputs, which I greatly appreciated. A special thank goes to the Switzerland Travel Centre UK and more particularly to Emmanuelle Perrot, for helping me to develop the thesis topic and supporting me along the way. I would also like to thank all experts who provided me with essential information. My biggest thanks go to my parents, Margaretha von Niederhäusern and Claude Bruchez, for their support during my whole studies and for making this unique and unforgettable experience in London possible.

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List of abbreviations

B2B	Business-to-business
B2C	Business-to-consumer
CO_2	Carbon dioxide
DETEC	Federal Department of the Environment, Transport, Energy and Communications (in German UVEK)
EDA	Eidgenössisches Departement für auswärtige Angelegenheiten
E.g.	Exempli gratia (for example)
Etc.	Et cetera (and so on)
Fam-Trip	Familiarisation Trip
FIT	Free Independent Travel
FSC paper	Forest Stewardship Council certified paper
GHG	Greenhouse gas
IPCC	Intergovernmental Panel on Climate Change
NASA	National Aeronautics and Space Administration
Ppm	Parts per million
SBB	Schweizerische Bundesbahnen (in English Swiss Federal Railways)
SCIB	Switzerland Convention and Incentive Bureau
STC	Switzerland Travel Centre
UK	United Kingdom (England, Scotland, Wales and Northern Ireland)
UNFCCC	United Nations Framework Convention on Climate Change
UNWTO	United Nations World Tourism Organization
UVEK	Eidgenössisches Departement für Umwelt, Verkehr, Energie und Kommunikation (in English DETEC)

1 Introduction

The global climate has changed a lot over the last years and will continue to change over the 21st century and beyond. The increase in global average temperatures is certainly caused by human activities, which are increasing the greenhouse gas (GHG) concentrations in the atmosphere. The consequences of climate change affect our lifestyles, economies, health and social well-being. Also regarding tourism, the climate change has an enormous impact and affects the tourism development and management. (Scott, et al., 2008, p. 26) Tourism is considered as one of the main contributors to the climate change, the GHG emissions are amongst others caused by the transport and accommodation of tourists. At the same time, the tourism industry and destinations worldwide are highly sensitive to climate change. Climate defines the length and quality of a season and plays a significant role in the choice of a destination. In many destinations, tourism is closely linked with the environment, which is often the main attraction for tourism. (Scott, et al., 2008, p. 28) Consequently, tourism plays a significant role in achieving the goals to change the climate and to help reduce the greenhouse gas emissions. (Scott, et al., 2008, p. 27) For this purpose, the study focuses on elaborating possible measures how a tour operator can decrease its touristic climate impact.

The overall objective of this study is to recommend the most suitable measures on how to decrease touristic climate impact for the Switzerland Travel Centre UK (STC UK). STC is the expert for holidays and tours in Switzerland and offers a comprehensive programme of holiday packages, scenic rail journeys, city breaks and much more around Switzerland. STC's offices are located in Zurich (CH), London (UK) and Stuttgart (D). This study has been carried out for the office in London, STC UK. The company does currently not consciously consider any measures to decrease the GHG emissions; therefore it has been decided to elaborate possible measures for STC UK, on how it could lower its touristic climate impact. These recommendations draw on interviews with managers and the head of STC UK and on an elaborated catalogue with measures, which make it possible for tour operators to decrease their climate impact in general. Each measure has been analysed regarding its effectiveness and market acceptance with the aid of five travel and sustainability experts. The methodology is limited to literature research, for the theoretical and literature part, and to semi-structured expert interviews based on the qualitative technique.

The first part of this study gives a theoretical background about the current climate, climate change and the interaction between tourism and climate. This part also demonstrates the different international agendas, which are needed in order to monitor and report the impacts of tourism and climate change on a global scale and to make decisions about tourism projects, infrastructure and development. This section also explains the CO_2 compensation, adaptation and mitigation options in the travel industry. The second part shows the elaborated catalogue of measures, whereby each of them has been analysed by means of different criteria, and in the end a table gives an overview of every measure. They focus on Switzerland, as this is the destination country of STC UK. The third part describes the company STC and analyses the elaborated measures from the second part in relation with STC UK. Finally, recommendations are given which of the elaborated measures are the most suitable ones for STC UK. The last chapter presents the main findings from the research presented in the previous chapters.

2 Research question

This chapter illustrates the developed research question based on the problem statement and explains the goal of this study.

2.1 Problem statement

The global climate is changing a lot and all trends show an immense increase in the future. The global average temperatures are raising, consequently also the GHG concentrations in the atmosphere are increasing. Amongst others, the tourism industry induce many changes in the global climate system, travel and tourism cause a large part of the global carbon emissions. The tourism industry has a lot of potential to cut down CO_2 emissions and has therefore a big responsibility in combating climate change. It is therefore very important, that the travel industry contributes to avoid CO_2 emissions and reduces its carbon footprint. At present, STC UK does not consciously meet principles towards sustainable travel and does not offer their clients a possibility to compensate CO_2 emissions. If they did so, STC UK would make an important contribution and raise awareness.

The research question was formulated as follows:

“Which are the most suitable measures for the Switzerland Travel Centre UK to decrease touristic climate impact?

- Which possible measures can a tour operator put into place in general?
- How is the effectiveness, market acceptance and acceptance of the Switzerland Travel Centre UK for those measures?”

2.2 Goal

The main objective of this study is to give a recommendation to STC UK what the best measures would be to decrease their touristic climate impact. Further goals are to elaborate a catalogue of measures, which a tour operator can put into place in general to decrease the climate impact and to analyse what the effectiveness, market acceptance and STC UK’s acceptance look like for the elaborated measures.

3 Methodology

The following chapter explains the methodical approach and presents the chosen methods of this study. At the end of this chapter, the limitations of this study are given.

3.1 Literature research

For the theoretical part of this study, the data research was done online and offline. Information concerning current climate, climate change, the relation between tourism and climate change and international agendas were found through several sources, amongst others through the Assessment Reports by the Intergovernmental Panel on Climate Change (IPCC), through the United Nations Framework Convention on Climate Change (UNFCCC) and the World Tourism Organization (UNWTO). More data was found online in international reviews, surveys, papers and various websites.

3.2 Expert interviews

This study is based on the qualitative technique; semi-structured expert interviews have therefore been conducted. In semi-structured interviews, the interviewer sets up an interview guide with a general structure. The ground, which has to be covered, and the main questions have been decided in advance. The interviewer follows this guide but is able to drift away in what to talk about or how much to ask, the detailed structure is thus left to be worked out during the interviews. Semi-structured interviewing is a very flexible technique for case studies, which does not involve a large number of people. (Drever, 1995) The conducted interviews provide information for elaborating the catalogue of measures to decrease the touristic climate impact, to make detailed information available, amongst others about their effectiveness and market acceptance.

As a first step, questions in relation to the research question have been formulated with the aid of the prior effected literature research. In a further step, these questions were divided into different areas in order to give the interview a structure. This resulted in the final interview guides, which are attached in Appendix I and II. Guide one presents the questions used for the five travel and sustainability experts, which has been selected in order to provide information for developing measures for tour operators how to decrease touristic climate impact. Guide two however shows the questions used for the head and the three managers from STC UK, which provided additional information about STC UK's operation and willingness to decrease touristic climate impact. After asking for permission, the interviews have all been recorded while conducted. In the end, the spoken words have been transcribed, the single text sections have been structured and in the end, the sections have been classified according to the themes.

The interviews took place during the months of September, October and November 2016 and focus on Switzerland, as this is the destination country of STC UK. The following table one gives detailed information about the conducted interviews:

Table 1: Interviewees

Name	Position	Company	Date (2016)	Type of interview	Language
Danielli Giovanni	Professor in tourism policy, sustainable tourism, natural resources and mobility	University of Applied Sciences Western Switzerland, Sierre	20th September	Skype	English
Kolb Helmut	Head of STC UK	Switzerland Travel Centre, London, UK	5th November	E-mail	English
Landwehr Kai	Team Manager Marketing and Press Officer	Foundation myclimate, Zurich	23rd September	Skype	English
Luehr Kristina	Product and Operations Manager	Switzerland Travel Centre, London, UK	31st October	E-mail	English
Monshausen Antje	Senior Policy Advisor and Head of the desk Tourism Watch	Tourism Watch – Bread for the World, Berlin	20th September	Phone	German
Nick Robb	Sales and Reservations Manager	Switzerland Travel Centre, London, UK	4th November	E-mail	English
Perrot Emmanuelle	Operations Manager	Switzerland Travel Centre, London, UK	18th October	Skype	English
Schmid Roland	Sustainability Manager	TUI Suisse Ltd, Zurich	21st October	Phone	German
	Head of the environmental and social group	Swiss Travel Association (Schweizer Reise-Verband), Zurich			
Tögel Florian	Head of Audit and Certification	TourCert, Stuttgart	4th October	Skype	English

Source: Table by the author

3.3 Analysis of measures based on various criteria

The measures, which have been developed with the aid of literature review and expert interviews, have been analysed by means of various criteria. In a first step, the measures have been analysed according to their effectiveness in terms of decreasing the touristic climate impact, amongst others in terms of reducing CO_2 emissions. Analyses have also been made on how the market and customer acceptance is expected for those measures and which the most negative and positive aspects are. In a second step, the elaborated measures have been analysed relating to STC UK. It was examined whether the measure is already being considered, what a next step would be, if the measure is theoretically feasible for STC UK and if it would be accepted by STC UK. In the end, recommendations have been deduced from these analyses.

3.4 Limitations

The research has been realised within the timeframe of a Bachelor Thesis. Due to this time constraint, the author has limited the information content of the theoretical part to what she found relevant for this research and therefore substitutions have not been taken into account. Lastly, due to time restriction while conducting the interviews, not every measure has been analysed by means of exactly the same criteria and not all possible measures how a tour operator can decrease its climate impact have been identified.

4 Tourism and climate

The climate change debate stands at the top, CO_2 emissions are at the highest levels and the world hottest global temperatures have been recorded. The *Fifth Assessment Report* by IPCC (2014) has concluded that climate change is undisputable and that human activities are very likely to be the dominant cause. If emissions continue to rise at the current rate, the global average temperature would be much higher than at present, as well as the sea levels. Together with more frequent and extreme weather events, the consequences would be disastrous. Tourism contributes to nine percent of the global CO_2 emissions, whereby transport generates the largest proportion of emissions with 75%. (Scott, et al., 2008, p. 177) The following chapter illustrates why and how climate is changing and why tourism is a victim as well as a contributor to climate change.

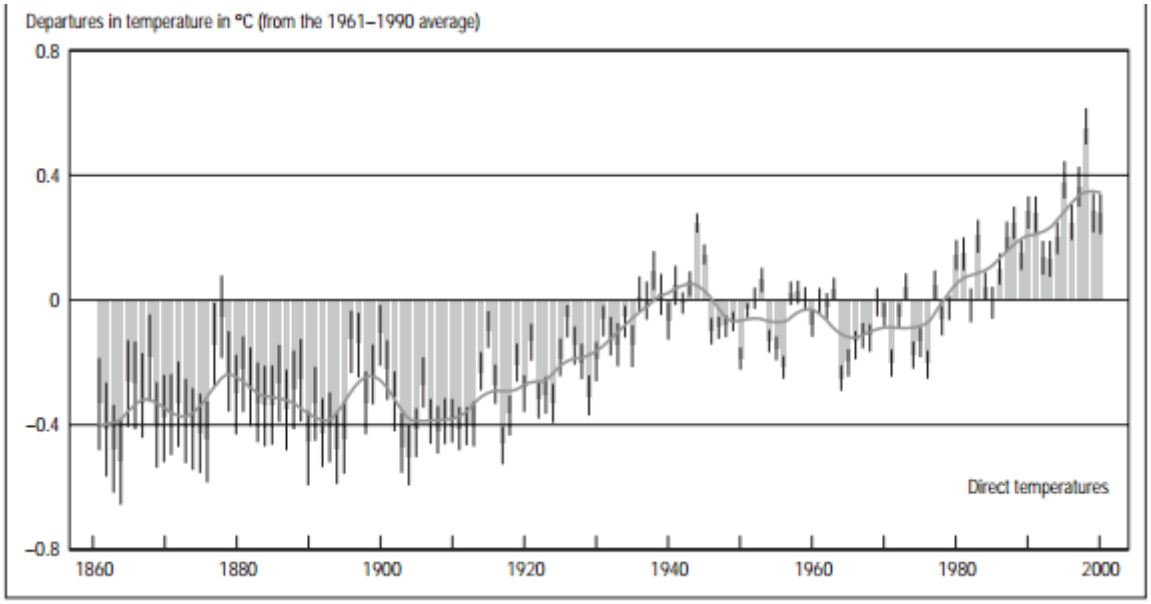
4.1 Current climate and climate change

On our planet, the weather changes all the time. With weather observation over a long period at a certain place, the climate can be recognised. The sun, which shines through the atmosphere during the day, influences worldwide the climate. In the sunlight, the Earth's surface warms up and at night, the surface cools down, releasing the heat back into the air. Over the last century, the average earth temperature constantly raised and the climate changed and evolved. The natural gas carbon dioxide, which is better known under the chemical abbreviation CO_2, can be found in the atmosphere. It is composed by carbon and oxygen. Humans produce with transports and factories an enormous quantity of CO_2, much more and faster than plants can absorb. The CO_2 concentration in the atmosphere is therefore increasing, the sunrays are trapped by those gases and do not escape into space. This greenhouse effect increases the temperature in our atmosphere; the climate is changing with catastrophic consequences. (OroVerde, 2012)

This greenhouse effect and the implicated climate trends have caused significant changes in atmospheric and oceanic conditions. They have been observed not only in mean conditions as the rise in global surface temperature or the sea level, but also in extreme conditions such as heavy rainfall, flooding and drought. (Becken & Hay, 2012, p. 8) Since 134 years, the National Aeronautics and Space Administration (NASA) is recording the global surface temperature. All ten warmest years have occurred since 2000, with the exception of 1998, and the year 2015 is the warmest on record. Compared to the 2000 mean, the average temperatures have increased by 0.45 °C until 2015. (NASA, 2015)

As figure one illustrates, the Earth's climate has always evolved. These changes can be attributed not only to natural causes but also very much to human activities. The UNFCCC defines climate change as: "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods" (1992, p. 3). Human activities such as deforestation, transport and industry have led to gases which are being stored in the atmosphere and where they trap heat. As mentioned before, they are known as greenhouse gases (GHG's) and cause global warming. (Blobel, Meyer-Ohlendorf, Schlosser-Allera, & Steel, 2006, p. 16)

Figure 1: Variation of the Earth's surface temperature for the past 140 years



Source: (Blobel, Meyer-Ohlendorf, Schlosser-Allera, & Steel, 2006)

In its *Fourth Assessment Report*, the IPCC (2007, pp. 45-46) identified possible future changes in the climate. If the amount of GHG emissions continue at or above current rates, the impact on the global climate system would be much worse at the end of this decade compared to the last one. If the GHG emissions were stable within the next 20 years, it would give a 25% probability that the average temperature increases by more than 2°C. Until the end of this century, the following projections are very likely:

- Greatest warmings over land and at higher northern latitudes
- Snow cover is expected to shrink and sea ice is expected to disappear almost entirely
- Hot extremes and heat waves are very likely to become more frequent and tropical cyclones and hurricanes will become more intense
- Precipitation is expected to increase in higher latitudes

However, as shown in IPCC's *Fifth Assessment Report*, those projections are already outdated, many components of the climate have changed to the worse (2014, pp. 64-65). The following comparison points out how fast the climate changed between 2007 and 2014; it is a dramatic development. The number of warm days and nights have increased as well as the global average sea level. The year-round melting of Artic sea ice has accelerated and permafrost is thawing to a greater extent as previously assumed. All these trends in climate will create new risks for natural and human systems. The IPCC identified the following key risks across all sectors and regions:

- Due to storm surges, sea level rise, coastal flooding and periods of extreme heat the risk of death and ill-health will increase
- Possible breakdown of infrastructure owing to extreme weather events
- Risk of food and water insecurity and loss of income for particularly poorer populations
- Risk of loss of ecosystems (terrestrial and inland water) and biodiversity which provide a livelihood

In order to manage risks from climate change, strategic consideration for adaptation and global scale mitigation is necessary. This proves also the newest *Greenhouse Gas Bulletin* of the World Meteorological Organization (2016, pp. 1-8). The global CO_2 concentration reached the record level of 400 ppm in 2015. The reason for the increase is, among others, droughts in tropical regions. Thus, forests and plants absorbed less CO_2.

4.2 Touristic contribution and consequences to climate change

The tourism industry plays worldwide a significant role. It is one of the most important economic sectors and is expected to grow with high rates. Especially in economically less developed countries and small island states, the tourism sector is the main source of income and has therefore the potential to boost the economy. In global terms, about one in eleven jobs depends directly or indirectly on tourism. (Monshausen, Tremel, Plüss, Koschwitz, & Lukow, 2016, p. 5) According to the *Fifth Assessment Report* of the IPCC, the tourism sector is expected to grow by four percent annually in average (cited in Kamp & Zimmermann, 2014, p. 5). Tourism is not only leisure and holiday, it represents far more. People travel for many reasons, amongst others for education, health and business. The United Nations World Tourism Organization specifies tourism as: "… the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited." (cited in Scott & Lemieux, 2010, p. 146)

Not only plays tourism an important role in the economic sector, but also in climate change, it is an ambivalent role. At the global and local level, tourism has negative impacts on the environment. Emissions from aviation cause more CO_2 than all local activities together. Indeed, flights contribute to five percent of the global CO_2 emissions, with serious consequences for the climate change. (cited in Monshausen, et al., 2016, p. 5) They are considered as especially harmful to the climate, as the CO_2 in the highest layers of the atmosphere contributes more to the global warming than the CO_2 on the ground. (Zeilhofer-Ficker, 2015, p. 4) The German Institute of Air Transport and Airport Research shows in its "*Luftverkehrsbericht"* (the annual report on the air transport), that the passenger volume for global air transport has grown from 2.5 billion to more than 3.3 billion per year, between 2005 and 2014 (Berster, et al., 2015, p. 86). However, tourism not only contributes to changes in climate but is also very climate dependent and vulnerable. This affects in particular the least developed countries as well as the already mentioned small islands, which rely on tourism as a development option. Travel is a privilege of people in the middle and upper classes; only two percent of the world population is able to actively participate in air travel. However, the impacts of climate change primarily affect those who are unable to travel. People from developing countries who make their living out of farming are harmed the most by extreme weather events such as droughts and storms. In addition, the living of fishing families who live on the coasts is endangered by the climate change due to the rise in sea levels. Not only tourism infrastructure and the loss of beaches are threatened by the climate change, it also implies vulnerability of the people working in tourism, who make it all possible. (Kamp & Zimmermann, 2014, p. 5 & 10)

According to Scott and Lemieux (2010, p. 147) tourism destinations and operators are affected by climate change in multiple ways. All tourism destinations are climate-sensitive to a certain degree, as they are influenced by natural seasonality. Climate variability can bring heatwaves, unseasonable cold, storms or heavy rain, which can affect not only tourist comfort and safety, but also the products, which attract them. For example snow cover, coral reefs or wildlife. Climate variability also influences various facets of tourism operations as snowmaking requirements or temporarily closures for example. In a survey conducted by Wall and Badke (cited in Scott & Lemieux, 2010, p. 147), 81% of the 66 national tourism and meteorological organizations, which participated, said that weather and climate have a great influence of tourism in their nation. Climate is even counted as one of the most dominant factors affecting global tourist flows. Climate not only affects the destination choice but also highly influences the timing of travel.

One of the main characteristics of global tourism is seasonal demand. As soon as the climatic resources are no longer suitable for certain specific tourism markets such as ski holidays, tourism operators can be forced to close down. The climate has consequently an important influence on travel and holiday satisfaction. Many tourists main cause of dissatisfaction is due to the weather. (Scott & Lemieux, 2010, pp. 147-152)

In short, the tourism industry and destinations worldwide are highly sensitive to climate variability and change. Climate defines the length and quality of a season and plays a significant role in the choice of a destination. In many destinations, tourism is closely linked with the environment, which is often the main attraction for tourism. (Scott, et al., 2008, p. 28) Tourism causes both positive and negative changes in the environment. (Monshausen, et al., 2016, p. 5) The negative ones must be reduced and measures to adapt to climate change in the tourism industry must be encouraged. This is necessary because tourism at the same time contributes to global climate change and suffers from its negative impacts. (Kamp & Zimmermann, 2014, p. 7)

4.3 International Agenda

In order to monitor and report the impacts of tourism and climate change on a global scale and to make decisions about tourism projects, infrastructure and development, different agendas and conventions are needed. Everybody needs to act and work together, from politicians to tour operator and travellers. The following chapter focuses on different international agendas, which are essential in relation to climate change and tourism.

4.3.1 Paris Climate Conference (COP 21)

The Paris Climate Conference is known as the 21st Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations body which is responsible for climate. At the same time, the conference served as the 11th Meeting of the Parties to the Kyoto Protocol. Each year, the COP meets and decides on further implementation to combat climate change. (United Nations, 2015) The COP 21 was held in December 2015 in Paris and reached a landmark agreement to combat climate change and to promote sustainable low carbon future. It charts a new course in the global climate effort as for the first time, all nations take ambitious efforts to combat climate change.

The Paris Agreement's central aim is to strengthen the global climate by keeping a global temperature rise below 2°C for this century and to strengthen the ability of countries to deal with the impacts of climate change. All parties have to report regularly on their emissions and on their implementation efforts. (United Nations Framework Convention on Climate Change [UNFCCC], 2015)

4.3.2 2030 Agenda for Sustainable Development

Globally seen, decision makers in tourism have not yet embarked on a path that is sustainable in all respects. Mass tourism is increasing and is highly resource and emission intensive. "Faster, farther, and more often" is the trend in which direction tourism is moving. This trend consequently fuels the negative tourism developments. Worldwide, tourism players emphasize the positive economic effects, whereas negative ecological and social impacts remain unspecified. However, the 2030 Agenda combines poverty alleviation and sustainability, economic development, environmental and social justice. Tourism is thereby several times explicitly mentioned. On one hand, the economic importance is recognised, on the other hand, it is mentioned that tourism needs to be put onto a sustainable path. Heads of state and government adopted the 2030 Agenda in 2015 at the largest United Nations summit ever. The Agenda shows the need for a transformation by describing the state of the world today. In contrast, the United Nations member states describe their vision of a world in which all people have food, access to water, education, work and health care. A world where natural resources are used responsibly and production patterns are sustainable. (Monshausen, et al., 2016, pp. 4-6)

Figure 2: Sustainable Development Goals

Source: (Eidgenössisches Departement für auswärtige Angelegenheiten [EDA], 2016)

Amongst the 17 Sustainable Development Goals as shown in figure two, three include tangible targets on tourism (EDA, 2016):

- **Goal 8** promotes sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
    - Target 8.9: By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products
- **Goal 12** ensures sustainable consumption and production patterns
    - Target 12.b: Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products
- **Goal 14** conserves and sustainably uses the oceans, seas and marine resources for sustainable development
    - Target 14.7: By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism

Monshausen et al., (2016, p. 6), point out, that the analysis of the 17 goals and 169 targets shows, that tourism finds points of reference in all the goals and can therefore contribute to the achievement of all of them. At the same time, tourism must reflect all global challenges in its development.

4.3.3 2017 International Year of Sustainable Tourism for Development

The United Nations declare 2017 as the International Year of Sustainable Tourism for Development. The resolution, adopted in December 2015, recognizes the importance of international tourism. It is fostering a better understanding among people everywhere, in leading to a greater awareness of heritage and bringing about a better appreciation of the values of different cultures. The declaration is an opportunity to strengthen the three pillars of sustainability (economic, social and environment) in the tourism sector. The decision to adopt 2017 as the International Year of Sustainable Tourism for Development comes at an important moment as the international community embraces the new Agenda 2030 with the Sustainable Development Goals. (World Tourism Organization, 2015)

5 CO_2 adaptation and mitigation options in the travel industry

CO_2, the greenhouse gas that traps heat and has increased the earth's temperature, lingers in the atmosphere for hundreds of years, and the planet takes a while to respond to warming. Even if all emissions were stopped today, global warming and it outcomes will continue to affect future generations. Despite the increase of awareness in terms of climate change, GHG emissions continue on a relentless rise. Because humanity has already committed to climate change, responding to it cannot be avoided. (NASA, 2016) Two approaches can be considered (UNFCCC, 2015):

- **Mitigation**: actions taken to reduce the flow of heat-trapping GHG emissions into the atmosphere
- **Adaptation**: refers to the actions that countries will need to take to respond to the impacts of climate change that are already happening, while at the same time preparing for future impacts

Amongst many others, one contributor to climate change is unmistakable the tourism sector, it will have both negative and positive influences. Especially the transport is what contributes most to the tourism-generated emissions. This chapter pinpoints both approaches, in relation to tourism, in detail.

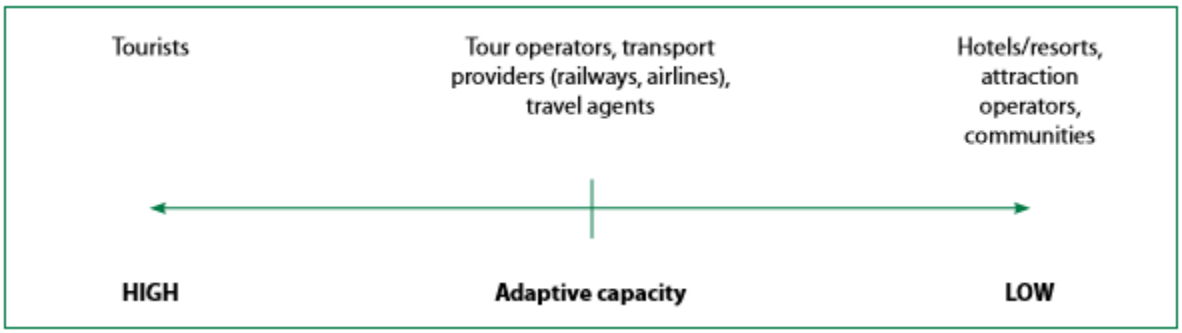
5.1 CO_2 adaptation

As climate change will have negative impacts on the tourism sector, all tourism businesses and destinations will need to adapt to climate change. They have to minimize risks and use new opportunities in an economically, socially and environmentally sustainable manner. Adger and Kelly (cited in Scott, et al., 2008, p. 81) once said: "it is meaningless to study the consequences of climate change without considering the ranges of adaptive responses". Even the IPCC indicated that the need to adapt to climate change is inescapable. (cited in Scott, et al., 2008, p. 81)

Adaptation to climate change involves adjusting to actual or expected future climate; the goal thereby is to reduce the vulnerability to the negative effects of climate change, as the rise of sea level. In addition, the most of any potential beneficial opportunities out of climate change has to be made, for example longer growing seasons. (NASA, 2016) The information requirements, policy changes and investments that are required for adaptation within the tourism sector will require decades, and therefore the process needs to start in the very near future.

The tourism industry reports a relatively high capacity to adapt to climate change, however this capacity varies between the sub-sectors of the tourism industry, as in figure three illustrated.

Figure 3: Relative adaptive capacity of major tourism sub-sectors



Source: (Jones & Scott, 2006, pp. 42-62 cited in Scott, et al., 2008, p. 81)

Tourists have the highest adaptive capacity to avoid destinations impacted by climate change or to avoid unfavourable timing of travel. Suppliers of tourism services as tour operators or transport providers have less adaptive capacity. Hotels and other tourism operators with large investments in immobile capital assets (e.g., resort complex or casino) have the least adaptive capacity. (Scott, et al., 2008, p. 81)

5.2 CO_2 mitigation

Climate change mitigation means to reduce and minimize the emissions of GHG's. New technologies and renewable energies can be used, older equipment can be made more efficient or consumer behaviour can be changed. The tourism sector offers a wide range of mitigation options, especially within the air transport and other transport systems, accommodations, tour operators and tourists itself. These options vary from low-cost initiatives (e.g. energy-efficient lighting in hotels) to some that require more effort and investment (e.g. purchasing more fuel-efficient vehicles). To reduce the carbon footprint of tourism, a combination of measures will be required and many stakeholders need to be involved. Beside airlines, transport companies, travel agents or hotel resorts, the tourists themselves are probably the most important stakeholders. (Scott, et al., 2008, p. 172) As Bauriedel (2013) explains, when travellers are informed about climate change issues when making a reservation, there is a high likelihood of a successful raise of customer awareness, which would have a positive effect in relation to the touristic carbon footprint.

If these stakeholders act pro-active in addressing climate change, mitigation offers a wide range of opportunities. The following three mitigation strategies are possibilities to reduce and minimize GHG emissions (Scott, et al., 2008, pp. 145-159):

- **Reducing energy use:** this can be achieved by changing transport behaviour (e.g. shift to rail instead of aircraft) and changing management practices (e.g. videoconferencing for business tourism)
- **Improving energy efficiency:** new and innovative technology to decrease energy demand should be used
- **Increasing the use of renewable or carbon neutral energy:** e.g. biomass, wind-, and solar energy

Through technological improvements, behavioural changes and other mechanism, mitigation can be achieved in various sectors.

Transport

75% of the GHG emissions in tourism is caused by transport. Aviation is one of the major contributor as well as the private car. The challenge for transport is to increase fuel efficiency of all transport modes and to facilitate a modal shift towards rail and coach. As current trends show a strong growth of air transport, various alternative fuels for aircrafts have been discussed. Nevertheless, biofuels are at current not suitable for the use in aviation, except in a very low mix ratio with jet fuel. (Scott, et al., 2008, pp. 146-148)

Tourism Establishments

Tourism establishments include among others accommodations, tourist attractions and recreational facilities. The accommodation sector itself represents globally 21% of emissions from tourism. Mitigation measures in tourism establishments focus particularly on energy efficiency and renewable energy. (Scott, et al., 2008, p. 158) As Krishnaswamy (cited in Kamp & Zimmermann, 2014, p. 25) outlines in her article “Addressing Climate Change in India”, historical sites for example could replace the light fixtures from incandescent lamps to LED fixtures.

Tourist Behaviour

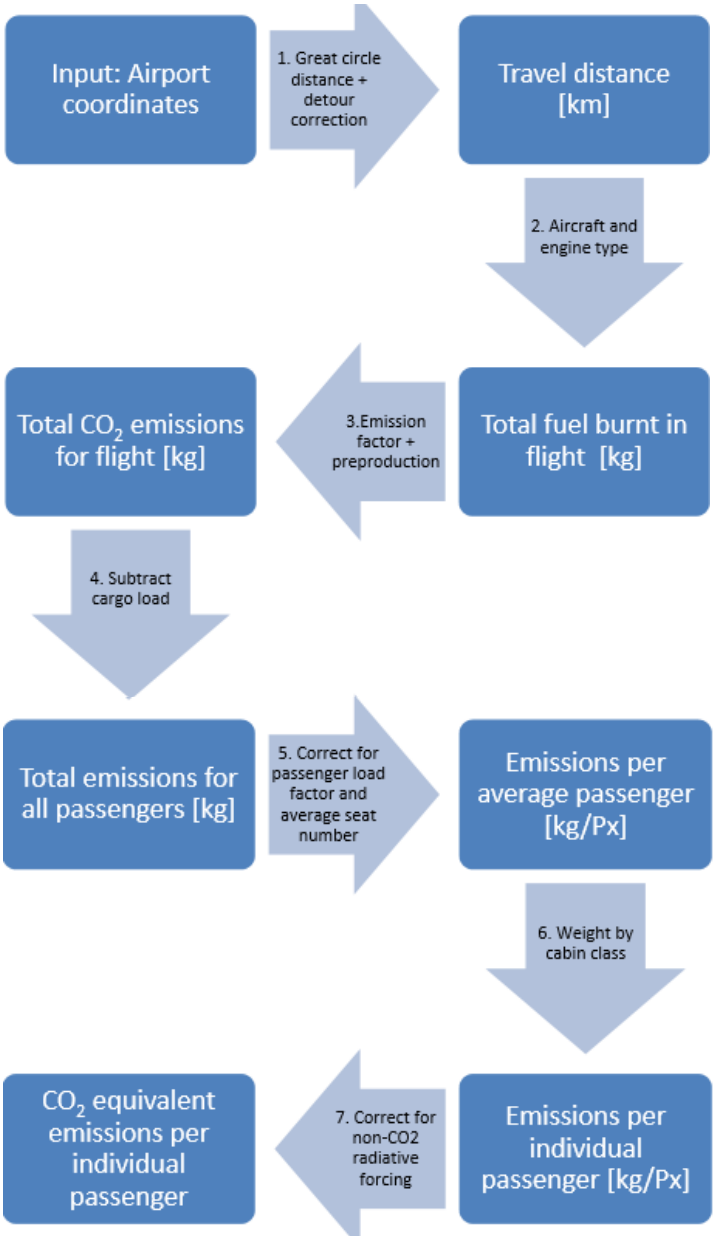
Tourists have autonomy in the choice of tourist products. A greater awareness of the dangers of climate change will affect tourist attitudes and lead to changes in travel behaviour. (Scott, et al., 2008, p. 167) Bauriedel (cited in Kamp & Zimmermann, 2014, p. 24) suggests that tour operators can actively participate to climate change mitigation by not offering means of transport that are harmful to the climate. Especially for short trips, flights could be eliminated and railway could be made more attractive. When travellers are confronted with climate change when making a booking, it raises the customer awareness. To achieve a reduction of the carbon footprint in tourism, it is important that far more tourism actors become engaged in moving towards mitigate emissions. (Scott, et al., 2008, p. 173)

6 CO_2 compensation options in the travel industry

If CO_2 emissions cannot be avoided already at the planning stage, there is the possibility to offset them. The emissions are a result of many activities, for example when driving a car, heating a house, cooking or taking a flight. In principle, all these activities, which cause emissions, can be considered for a compensation. This includes, among others, air travel in the tourism industry. (Mutschler, 2012, p. 20) Although many people know that aviation cause damage to the environment, many flights cannot be waived and as long as air travel depends on the fossil fuel kerosene, not all CO_2 emissions can be avoided. However, the guilty conscience is growing and more people are willing to pay a compensation. (Zeilhofer-Ficker, 2015, p. 5) If a private person wants to compensate, the easiest way is to calculate the own carbon footprint and to choose a reliable agency. (Mutschler, 2012, p. 20) The TUFT University in Massachusetts (USA), recommended only four agencies that are reliable, including the German “atmosfair” and the Swiss “myclimate”. (cited in Zeilhofer-Ficker, 2015, p. 5) Both agencies allow customers to compensate the unavoidable CO_2 emissions, generated by their flight, by making voluntary monetary contributions. This money flows into certified climate protection projects; therefore, these projects are linked to climate protection contributions in form of compensation payments. The majority of such projects are implemented in developing countries. The reduction of emissions is generally more affordable, the countries can gain access to new technologies and the volume of environmentally harmful emissions can be reduced on a greater scale for the money that is invested. In these projects, environmentally harmful energy sources are replaced by environmentally friendly sources. (myclimate – The Climate Protection Partnership, 2013)

The calculation of the amount of money for compensating is based on scientific models. The myclimate flight calculator identifies the volume of CO_2 emissions that an airplane gives off per passenger for a certain flight distance. The calculation is based on average consumption data for typical airplanes for either short- or long-haul flights. The calculation also takes into account whether someone is flying economy, business or first class. (Foundation myclimate, 2016a) Figure four illustrates the different steps used in the Flight Emissions Calculator.

Figure 4: Flight Emissions Calculator



Source: (myclimate – The Climate Protection Partnership, 2015)

According to Münck, Holzapfel, Lanz & Graue, (cited in Zeilhofer-Ficker, 2015, p. 9) climate protectors are warning against the “selling of indulgences”. The compensation payments could mislead to keep the present lifestyle, without looking for potential savings. It is therefore important to check each flight on its necessity. Taking the train is often as fast as a flight, but much more climate-friendly.

Examples

The „Forum anders reisen“ brings together tour operators, which want to promote sustainable tourism. It is for this reason that the Forum is a co-founder of the German climate agency “atmosfair”. (Zeilhofer-Ficker, 2015, p. 10) In 2014, atmosfair achieved an income of 3.7 million euros for voluntary climate protection contributions for climate protection projects. In 2015, the income went down to 2.9 million euros. Examples for projects are efficient stoves in India, small hydropower plants in Honduras and small biogas systems for dairy farmers in Kenya. (atmosfair GmbH, 2015, pp. 6-40) The Swiss counterpart to atmosfair is myclimate. In 2015, myclimate achieved 9 million Swiss francs for CO_2 offsetting donations. This money has been reinvested, among others, in clean drinking water in Uganda, Solar energy for education in Tanzania and energy saving lamps in Madagascar. (Foundation myclimate, 2015, S. 15-80) With myclimate, not only CO_2 compensation for flights are possible, but also for a Cruise Trip, for a company’s annual emissions or a whole event. (Foundation myclimate, 2016b)

7 Catalogue of measures to decrease touristic climate impact

"I believe on a global scale the travel and tourism industry has a huge importance in terms of avoiding CO_2 emissions worldwide."

- Kai Landwehr, myclimate

Not only Landwehr from myclimate represents this opinion, all interviewees are of the same view, the importance of the travel industry to reduce the carbon footprint is high. Landwehr (2016) points out that at current, around five percent of the global carbon emissions are caused by travel and tourism. For him, this is a huge angle for climate protection and he says that there is a lot of potential in the travel and tourism sector for cutting down the CO2 emissions on a global scale. Also Tögel (2016), the Head of Certification of TourCert, shares this opinion. He says that the flights lead to high emissions, which is why the tourism industry does have a big responsibility in terms of CO2 emissions of the tourism products. It is therefore very important, that the travel industry contributes to avoid CO2 emissions, as Danielli (2016), the professor in sustainable tourism, underlines. Tögel (2016) says that if companies offer compensation, it is also an advantage for the company's image. More and more people are interested in sustainable living in general, which means that it can even help to attract new clients.

All these facts demonstrate the importance to act against CO2 emissions in the travel industry and underlines what has been worked out in chapter four. In order to counteract against them, the following section presents possible approaches for adapting, reducing or compensating CO2 emissions. The main approach is listed for each individual measure from the tour operators perspective. These three options have been analysed for this study, whereby tour operators should consider compensation as a last step, when other efforts to improve climate compatibility have preceded. (Mutschler, 2012, p. 18) The elaborated measures are based on expert interviews and the provided information in chapters four, five and six. Each measure is described and followed by an analysis, based on various acquired criteria. Due to time restriction while conducting the interviews, not every measure has been analysed according to exactly the same criteria.

7.1 Climate protection project

Main approach: adaptation

7.1.1 Description

In terms of adaptation, there is the possibility for a tour operator to start climate protection projects in the countries where they send their travellers. The focus should be on projects, which realize regional adaptation measures. (Landwehr, 2016)

7.1.2 Analysis

Tour operators can set up their own climate protection project. If they do compensation, they can support carbon-offset projects with this compensation in many countries, amongst others within the travel destinations. Such a project can for instance be a compost project in Bali. A smart way of doing this is to integrate this project into an offered tour and to offer it in a package to the customers. If customers pay a contribution to this project, they can visit it, learn something about the country and they get a picture of their personal impact. myclimate, the Swiss climate protection partner is always interested in such projects and to find partners in the travel and tourism industry. If the travel destination is Switzerland, two different options are available. Firstly, there are Swiss climate protection projects. They are measured, have to be validated and verified and then carbon reduction is got out of it. These projects are very expensive as in Switzerland the transaction costs are very high. The costs will be five to six times higher to offset one ton of CO_2 in a Swiss climate protection project, compared to an international high standard project. The second option is to share the funds. The tour operator and customer can share the costs for compensation and the money goes to myclimate. They take 50% of the contribution and use this money for compensating in international projects, which are much cheaper than Swiss projects. The other 50% are invested in local measures for climate protection. As with the high transaction costs and monitory process it is too expensive to do a climate protection project in Switzerland out of this 50%, no project will be implemented. However, a hotel for instance can use this money for integrating solar panels on their roof for warm water heating. These local measures can be shown to customers and have a positive impact on climate. There are also many international forestry projects, but they are difficult ones. It takes a long time, on average twenty years, that a single tree can offset one ton of CO_2. It cannot be guaranteed that this tree is still there in twenty years; a tree can die from different illnesses or burn down and release all CO_2 again. (Landwehr, 2016)

7.2 Train

Main approach: reduction

7.2.1 Description

Travellers are encouraged to avoid the plane and take the train and consequently become part of the slow travel[1]. Travellers will experience a deeper sense of place and simultaneously decrease their carbon footprint. (Christ, 2014)

7.2.2 Analysis

Landwehr (2016) points out that there is a lot of potential in terms of choosing eco-friendly and CO_2 friendly means of transportation. Not only within the country, but also to get to the country. Danielli (2016) holds the same view; he says a tour operator has to promote the train for going to the destination, especially for short-haul travel. He says that the DETEC, the Federal Department of the Environment, Transport, Energy and Communications in Switzerland, has a strategy that says until a 7 hours journey, it is possible for holidays to go by train. (cited by Danielli, 2016) Although the train is not as sustainable in some countries as for example in Switzerland, it is still better in terms of CO_2 emissions than an airplane. However, he remarks that the train must have more services such as a restaurant, a business compartment or even a cinema, to make it more tempting to travellers. He also says it is very important to have relationships with the train companies and to expand them. However, also the public transport in Switzerland has to be promoted. Unlike in France, where the train system is working with atomic energy, or in Germany, where it works with coal, Switzerland's train system uses electricity from water energy. (Danielli, 2016) Switzerland provides a train every 12 minutes, on a 3'000 km network with 9'000 trains daily. This is not only European record but also very eco-friendly, as the trains move pollutant-free through 671 tunnels and over 6'000 bridges. The Switzerland Convention and Incentive Bureau (SCIB) confirms that in no other country on earth, the inhabitants cover more kilometres per year by train than in Switzerland. (2016c) This proves that especially domestic flights can be easily avoided, as also Tögel (2016) remarks.

[1] travelling long distances over land and sea rather than by plane, especially because the concern about the environment or because of willingness to spend time enjoying the journey (Macmillan Publishers, 2007)

7.3 Collaboration with destinations

Main approach: reduction

7.3.1 Description

Tour operators can work together with destinations within the travel country in order to provide climate-neutral activities and promote sustainable regions. (Danielli, 2016)

7.3.2 Analysis

In Switzerland, many destinations and regions are committed to sustainability; in fact, the Swiss are particularly sustainable. This point includes a consistent recycling, a good waste management and a controlled landscape planning. If tour operators work together with them, the carbon footprint can be reduced and environmental friendly activities can be promoted. (SCIB, 2016a) Examples for such activities are the “E-bike Maggiore” project with its commitment to soft mobility, provided by the Lake Maggiore Tourist Office. Nevertheless, there are many other possibilities such as myclimate Audio Adventure Tours in Zurich and St. Gallen or the recycling project in the ski resort Flims Laax Falera. (SCIB, 2016b)

7.4 Collaboration with environmentally friendly hotels

Main approach: reduction

7.4.1 Description

In order to save CO_2 emissions, there is a big potential with accommodation. Tour operators should choose environmentally friendly hotels and resorts. The hotels should also offer regional products. (Danielli, 2016)

7.4.2 Analysis

There are many hotels which are committed to the environment and which support regional products. In terms of reduction, there is a big potential in accommodation. In Switzerland, a wide range of hotels with sustainable management and services can be found. (Landwehr, 2016) The brand “Sunstar” for example is a traditional company with nine hotels in the Swiss mountains. The brand stands amongst others for sustainability, which is a part of life, far more than just a slogan. In May 2008, Sunstar became the first hotel group worldwide to offset all CO_2 emissions from its Swiss hotels and thus played a pioneering role.

100% CO_2-free electricity obtained from renewable energy sources, free rail tickets for travel to and from the hotel and regional products are only a few examples of all the implemented measures. (Sunstar Hotels Management AG, 2016) Also the Swiss Youth Hostels are committed to sustainability. Their environmental management programme takes not only the ecology of the buildings into account but also the organisations. All youth hostels are certified with the EU Eco-label and the ibex fairstay label[2]. In addition, four hostels meet the Minergie energy-rating standard. All electricity is obtained CO_2-neutrally, while five youth hostels produce their own photovoltaic power. 58% of all guests make use of the voluntary CO_2 offset. (Schweizer Jugendherbergen, 2016) Other examples for hotels in Switzerland, which are committed to the environment, are the Hotel Saratz in Pontresina, the Hotel Storchen in Zurich, the Ferienart Resort & Spa in Saas-Fee and the Beau Rivage in Geneva. (Switzerland Tourism, 2016)

7.5 Collaboration with stakeholders

Main approach: reduction

7.5.1 Description

In order to move toward sustainability, collaborations between tour operators and stakeholders in tourism are necessary. Collaborations are seen as an effective way to support tourism development. (Graci, 2012, p. 25)

7.5.2 Analysis

As indicated by Kernel (cited in Graci, 2012, p. 28), a collaboration has the ability to create social capital and contributes to the development of more sustainable tourism. After Carbone, the partnership will lead to new opportunities and innovative solutions. (cited in Graci, 2012, p. 28) Also Danielli (2016) remarks the importance of collaborations. He says a tour operator could work together with the protection of landscapes, as they are dependent on each other. An example for collaboration with a company to develop more sustainable tourism in Switzerland is Mobility Cooperative. For occasional users, as tourists would be, Mobility offers Click & Drive. This solution offers occasional car sharing at a flat rate. Travellers can apply for it via the Mobility customer portal. The reservation and payment can be made through the customer portal. At a ticket counter from the Swiss Federal Railways, the Mobility Card can then be collected and the traveller can drive off. (Mobility Cooperative, 2016)

[2] more information in chapter 7.6

Travellers who take the train to a holiday destination, but once arrived at the destination need a car for some reason, the Click & Drive offers a solution. Another possible cooperation partner in Switzerland is the Sunstar Hotels Management AG (2016)[3]. They implemented many measures in their hotels in order to provide more sustainability. A cooperation is also possible between a tour operator and Switzerland Explorer. They let travellers discover Switzerland in small groups with the world's first 100% electric tour bus. Especially for a tour operator specialised in group holidays, Switzerland Explorer could be a very interesting partner. (Switzerland Explorer, 2016)

7.6 Labels

Main approach: reduction

7.6.1 Description

In order to promote a sustainable tourism development, especially for an environmentally friendly tourism, it is important to promote touristic labels. (Danielli, 2016) To make sure that holiday providers respect social and ecological standards, such labels can be important decision-making aids. (Plüss, Zotz, Monshausen, & Kühhas, 2016, p. 5)

7.6.2 Analysis

Holiday providers, as well as travellers, have to make sure to respect ecological standards. In this regard, a trust-worthy label can be an important aid in decision-making, for example for choosing accommodations to work with. A growing number of tourism products are equipped with labels. Such labels come in diverse qualities, it is not always easy to know which labels are reliable and which are dubious. A trustful label discloses its certification criteria and has been verified by an independent body. (Plüss, Zotz, Monshausen, & Kühhas, 2016, p. 5) The following table two gives an overview of the most important labels in tourism in Switzerland.

[3] more information in chapter 7.4

Table 2: Labels in tourism

Label	Logo	Description
Travelife Award (b)		A label for sustainable hotels worldwide. www.travelife.org
CSR – Corporate Social Responsibility in Tourism (TourCert) (a)		A label that is awarded to tour operators, travel agencies and accommodations. All businesses, which introduce a CSR management system constantly improve their sustainability performance. www.tourcert.org
EU Ecolabel (b)		Environmental certificate for ecological enterprises of the hotel industry and non-hotel accommodation. www.ec.europa.eu/environment/ecolabel
Ibex fairstay (b)		The unique quality label for sustainability management in accommodation businesses in Switzerland. www.ibexfairstay.ch
Green Globe (a)		Green Globe certifies businesses, conference centres, hotels, resorts and attractions. www.greenglobe.com
Goût Mieux (b)		«Goût Mieux» is the label for Swiss gastronomy, which emphasizes natural culinary pleasure. www.goutmieux.ch

Source: Table by the author with multiple sources

a. (Plüss, Zotz, Monshausen, & Kühhas, 2016, p. 16 & 20)
b. (Schweizer Tourismus-Verband, 2016)

7.7 Regional products

Main approach: reduction

7.7.1 Description

According to Landwehr (2016), accommodations should try to provide regional supplies with food and products in the destination country. Regional products have to be integrated and supported, there is still a lot of potential. Tour operators are therefore advised to promote accommodations with local food.

7.7.2 Analysis

The food system is responsible for a third of all CO_2 emissions. It is therefore very important to reduce the carbon “foodprint”. More than 4.5 million tons of food are wasted every year only in the U.S. Wasted food means wasted energy and water and means wasted GHG’s. Moreover, ruminant animals (cattle, goats, and sheep) release the most GHG emissions compared with all livestock as ruminants have a unique digestive system that constantly generates methane, a GHG that is more powerful than carbon dioxide. Meat is also associated with greenhouse gas emissions thanks to the crops used for animal feed and its use of water. (Bon Appétit Management Company Foundation, 2007) However, the most important aspect to reduce the carbon “foodprint”, especially in the tourism industry, is to eat seasonally and regionally, which means for suppliers in the tourism value chain to provide regional products. Danielli (2016) states that in products, which originate from all over the world, there is a lot of CO_2 in it, especially caused by the long distance transport. For him, it is not only important to promote regional products in terms of CO_2 emission savings, but also in order to promote more authenticity at the destination. Authenticity plays an essential role in the tourism offers.

7.8 Canteen food

Main approach: reduction

7.8.1 Description

If a tour operator wants to make a step towards climate neutrality, one solution is to analyse the supplier chain for the company’s own canteen. (Schmid, 2016a)

7.8.2 Analysis

Schmid (2016a) feels that there are many opportunities to change something within the supplier's chain if a tour operator has its own canteen. He says that one solution is to purchase the food in a wholefood shop or a health food store. Apart from that, it is also very important to buy seasonal fruits and vegetables and to buy local products. Long distribution channels, which cause a lot of CO2 emissions, can be prevented. It helps to reduce CO_2 emissions and yet it is beneficial to the employee's health.

7.9 Employee awareness

Main approach: adaptation

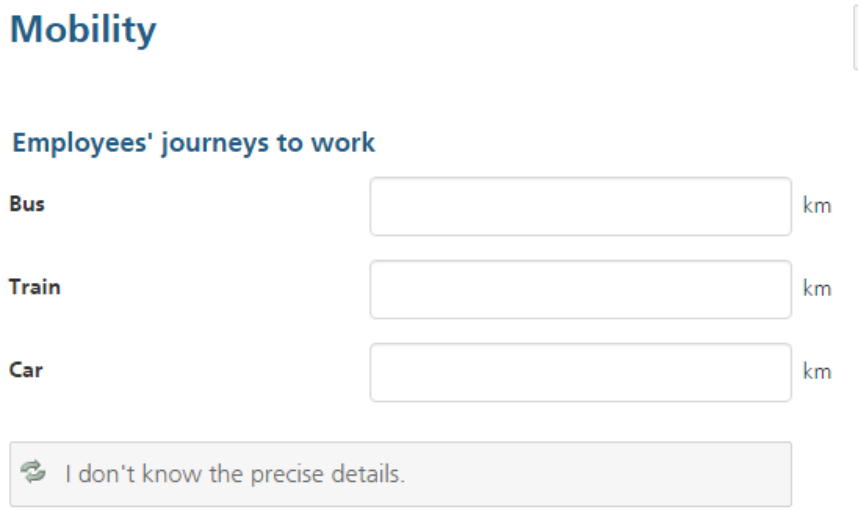
7.9.1 Description

If a tour operator wishes to act against CO_2 emissions, the first step should be to increase the employee's awareness towards CO_2 and climate change in general. Only if the employee is personally conscious about this topic it is possible to give advice to customers. (Schmid, 2016a)

7.9.2 Analysis

Tourism can adapt to climate change in many ways. One important measure is the sensitization of the tourism sector, in particular the sensitization of the employees working in the tourism field. (Müller & Weber, 2008, p. 5) If an employee is not familiar with this topic, including all its positive and negative impacts, not much will happen. The first step to do is to distribute information internally about the importance of avoiding CO_2 emissions. Nowadays, travelling is an important part of our lives, it is therefore even more important to know how to reduce the personal carbon footprint. If an employee once has this sensitivity, how to keep the personal impact at a minimum, they can then speak to customers and tell them how to do it. Employees can be trained in workshops. The Swiss Travel Association (Schweizer-Reise-Verband, SRV) offers regularly workshops on the issue of sustainability in tourism, as for example how to advise a customer concerning sustainably at the counter. (Schmid, 2016a) myclimate offers many solutions in terms of CO_2 compensation, one possibility is amongst others to compensate the employees' journeys to work, how figure five demonstrates. That is another way to sensitize staff members. (Foundation myclimate, 2016d)

Figure 5: Offset employees' journeys to work



Source: (Foundation myclimate, 2016d)

Moreover, a next Fam-Trip in Switzerland could be linked with a visit to the Environment Centre (Umweltarena) in Spreitenbach. There, connections between environmentally friendly products and human behaviour are made and illustrated. Besides the exhibition, events take regularly place and an audio guide can be rented. (Umwelt Arena Spreitenbach, 2016)

7.10 Customer awareness

Main approach: adaptation

7.10.1 Description

Once the employees' awareness towards climate change and its impacts is increased, it is necessary to increase customers' awareness. Many travellers are not aware of the huge impact of tourism activities towards climate change. (Landwehr, 2016)

7.10.2 Analysis

It requires a good and solid communication strategy in order to provide sufficient information to customers to increase their awareness towards climate change. (Landwehr, 2016) Travellers are contributors to climate change. For this reason, they are required to act against it and therefore, the awareness has to be raised. Tour operator's customers have to be informed about it in a smart way. If customers are particularly interested in the climate change topic, a targeted communication is required, tourists have to be informed regularly. Information about sustainable travel and concrete services (journey, accommodation, and package) have to be provided.

If possible, travellers can be involved on the spot. (Universität Bern, 2011, p. 60) Also Schmid (2016a) points out that while in holidays, people have time and they can see the direct impacts of climate change. This is useful in order to sensitize travellers. The holiday destination or hotel can be used to inform guests, as with a tour through a sustainable hotel. Another option to involve guests directly at a destination in Switzerland is for example the Pro Natura Centre Aletsch. With a wide-ranging environmental education programme, the Pro Natura Centre Aletsch seeks to teach people about the Swiss Alps Jungfrau-Aletsch UNESCO World Heritage and raises awareness of the magnificent mountain landscape of the Aletsch Arena. The programme at the conservation centre covers exhibitions and guided excursions. (Aletsch Arena AG, 2016)

Information should be provided in travel documents as well. A note about the possibilities of the environmental protection, as for example the compensation of CO_2 emissions, should be added. The customer can take the time and individually decide if he wants to compensate his CO_2 emissions. A compensation can also be done after the journey. (Schmid, 2016a)

7.11 Longer stays

Main approach: reduction

7.11.1 Description

If travellers do long distance travel, they are advised to stay at least two or three weeks. (Landwehr, 2016)

7.11.2 Analysis

The reduction of the length of stay at the destination is one of the main characteristics of current tourism. (Alegre & Pou, 2005, p. 1343) However, especially if travellers go on a long distance travel by plane, it is important to stay at least two or three weeks at the destination, in order to reduce the own carbon footprint. In an ecological way, it does not make any sense to stay there for only a short period. (Landwehr, 2016) The length of stay also effects the income, which is generated in tourist destinations. (Spotts & Mahoney, 1991, S. 24-31)

7.12 Consumption in head office

Main approach: reduction

7.12.1 Description

If a tour operator wants to act against climate change, it is necessary to also look at the consumption in the office itself, the potential is often far from being exhausted. (Monshausen, 2016) In order to improve the company's carbon footprint, many possibilities are available. It is for example important to promote a good recycling management and to cut back on plastic waste.

7.12.2 Analysis

Not only Monshausen (2016) opines that a tour operator should look at his own office consumption, Schmid (2016a) advises to establish an inventory in order to discover CO2 burdens. One is for example plastic. To lower the impact on the planet, everybody is required to say no to it. This includes travellers and as well tour operators, which have to cut back on plastic waste. The Great Pacific Garbage Patch is a mass of human trash, which spans thousands of miles of the ocean. It includes gazillions of plastic debris such as bottles and bags, which will take at least hundreds of years to break down. (Christ, 2014) Tour operators are part of the solution by providing water in recyclable glass bottles and by providing tote bags without plastic to their customers. It will also reduce the carbon footprint as petroleum based ingredients are used in manufacturing plastic bottles and bags. (Christ, 2014) In general, it is essential to promote a good recycling management. A study conducted by Carbotech AG shows that PET bottles can be recycled and consequently GHG emissions can be reduced. (cited in Verein PRS PET-Recycling, 2016) In Switzerland in 2014, 152'000 tons of GHG emissions have been prevented. (Verein PRS PET-Recycling, 2016)

Another possibility to reduce CO2 emissions is, as Schmid (2016a) mentions, to scrutinise the production of catalogues. Since nowadays the number of online bookings is increasing, not as many catalogues as in the past are needed. Therefore, the number of produced catalogues can often be cut back. In addition, the choice of suppliers is very important. Printing companies, which only use FSC4 certified or recycled paper, have a neutral effect on the climate. (Schmid, 2016a)

A company can as well offset the annual emissions in order to compensate heating, electricity, meals and waste. (Foundation myclimate, 2016c)

[4] Forest Stewardship Council certified paper

7.13 Business travel

Main approach: reduction

7.13.1 Description

What also has to be considered if a tour operator wants to act against climate change is to examine the company´s own business trips. Monshausen (2016) mentions business flights have to be avoided or at least a compensation has to be done.

7.13.2 Analysis

Taking the train as often as possible while travelling does not only count for customers of a tour operator but also for employees. The same applies here as well; business travel by plane should be avoided. Employees should be encouraged to take the train as often as possible in order to decrease their carbon footprint. If taking a plane cannot be avoided, there are still some measures that can be taken. First or business class travel should be avoided. In order to fly in a carbon-efficient way, an eco-friendly airline and economy class should be chosen so that seat-density is as high as possible. (Landwehr, 2016) In 2012, CNN Travel (2012) revealed the most ecological airlines in the U.S. and Europe. The ranking has been published by Greenopia and is based on various eco credentials as the fuel conservation practices, progress on alternative fuel types, recycling programs and carbon offsets. Europe's most ecological airlines includes, amongst others, Lufthansa, British Airways and EasyJet. (cited in CNN Travel, 2012) As a last measure, business flights have to be compensated if they cannot be avoided. (Monshausen, 2016)

7.14 Compensation by the customer

Main approach: compensation

7.14.1 Description

Although most of the interviewees share the same opinion, compensation is the last measure to take into account after adaptation and reduction, it is essential to inform customers about this possibility. If there are no possibilities to adapt to climate change or reduce CO_2 emissions, customers should be encouraged to do compensation. (Danielli et al., 2016)

7.14.2 Analysis

Tögel (2016) notes not only the enterprise has to compensate, but also the customers. However, he also says that this is not easy as most of the customers do not see any sense in compensation, they do not understand why they should do it and this is why a good and solid communication strategy is required. A company has to talk to the customers and has to explain why they encourage compensation. In his opinion, more people would compensate when they are well informed, when they know why they should do it. If people do not understand why they should do it, they will not do it. It can be said that the tour operator is responsible for educating its customers and for communicating and explaining different measures to them. A company cannot force any customers to compensate; it is voluntary. However, a company should provide sufficient information. They can also integrate compensation possibilities in their online booking system. Also Landwehr (2016) mentions this possibility. In his opinion, it is essential for a tour operator to include compensation into their booking system. There are different ways to integrate it. A tour operator can say compensation is mandatory and takes over all the costs. However, there are some other models as well. The costs and responsibility for compensation can be shared between tour operator and customer. If that is done in a smart and user-friendly way, customer acceptance will be higher. A study conducted by the University of Applied Sciences in Lucerne (Wehrli, et al., 2013) examines how CO_2-offsetting can be best integrated in a tourism product. It can be completely integrated in the product's price and so the customers automatically compensate their emissions when purchasing the product, they have no choice and compensating is obligatory. Another option is to offer customers the "opt-out" method where the compensation is integrated in the product, but there is an option to delete it. The last option is to include compensation as an additional add-on feature to be purchased with the product where customers actively have to "opt-in". According to the study, the most preferred way of integrating CO_2 offsetting is to enable customers to opt-out.

7.15 Cooperation with myclimate

Main approach: compensation

7.15.1 Description

myclimate is a partner for effective climate protection, locally and globally. They want to shape the future together with their partners through consulting services, education and climate protection projects. myclimate pursues this as a science-based and business-orientated non-profit organisation. (Foundation myclimate, 2016e)

7.15.2 Analysis

Landwehr (2016) explains that myclimate is offering many different options to become a partner. They provide industry solutions for tourism companies, tour operators are among the earliest partners myclimate had. With some of them, myclimate has by now a partnership for more than 10 years and has therefore a lot of experience in the travel sector. The easiest offer is the CO_2 calculator for travellers, which means they can compensate flights and accommodations. The carbon footprint of each individual and of each tour can easily be calculated. The tour operators can integrate this calculator into their online booking system. However, they can also go one step further and work on reduction measures. Firstly, myclimate has to calculate the individual footprint of the partner hotels and then it can be worked on measures for reducing the carbon footprint on travel offers. Moreover, there are some interesting solutions for bigger tour operators; they can set up their own climate protection project. With a compensation they do they can support a carbon offset project within the travel destination. This project can then be integrated into an offered tour or package. When travellers go to this destination, they can visit this project, learn more about the country and they get another picture of their personal impact. Such projects are also possible in Switzerland, but as in Switzerland, transaction costs are very high, these projects are very expensive. As the costs will be five to six times higher, compared to a project in another country, a better option is the shared model, which is described in chapter 7.1.

7.16 Overview measures

The following table three gives an overview of the measures, which have been elaborated and analysed in the preceding chapters. After a short description, the most important positive and negative aspects from the tour operator's point of view are outlined. In the end, the effectiveness and the market and customer acceptance of each measure is clarified.

Table 3: Overview measures

Measure	Climate protection project	Train	Collaboration with destinations	Collaboration with environmentally friendly hotels
Chapter	7.1	7.2	7.3	7.4
Description	Tour operators start climate protection projects in the countries where they send their travellers. The focus should be on projects, which do regional adaptation measures. (Landwehr, 2016)	Travellers are encouraged to avoid the plane and taking the train. They will experience a deeper sense of place and simultaneously decrease their carbon footprint. (Christ, 2014)	Tour operators can work together with destinations within the travel country in order to provide climate-neutral activities and promote sustainable regions. (Danielli, 2016)	Tour operators should choose environmentaly friendly hotels and resorts for their customers. The hotels should also offer regional products. (Danielli, 2016)
Positive	- implications can be shown to customers on the spot	- saves CO_2 emissions without much effort on the part of the tour operator - in Switzerland, the train system works with water energy	- easy to be implemented	- a wide range of sustainable hotels can be found in Switzerland
Negative	- high costs involved	- travellers must be willing to pay more	- not very effective regarding CO_2 emission savings	- hotel contracting must be amended
Effectiveness / market and customer acceptance	- such a project is seen as very effective but only if a certain volume of CO_2 emissions, around 10 thousand tons, is achieved (Landwehr, 2016)	- very effective in terms of CO_2 emissions saving, particularly in Switzerland, as the train is running with 90% hydroelectricity (SBB, 2016)	- high market acceptance as Switzerland is generally admitted to sustainability (SCIB, 2016a)	- considering environmentaly friendly hotels can lead to a great effectiveness to reduce CO_2 emissions (Danielli, 2016)

Measure	Collaboration with stakeholders	Labels	Regional products	Canteen food
Chapter	7.5	7.6	7.7	7.8
Description	Collaborations between tour operators and stakeholders in tourism are necessary and are seen as an effective way to support tourism development. (Graci, 2012, p. 25)	To make sure that holiday providers respect social and ecological standards, labels can be important decision-making aids. (Plüss, Zotz, Monshausen, & Kühhas, 2016, p. 5)	Accommodations should try to provide regional supplies with food and products in the destination country. Tour operators are therefore advised to promote accommodations with local food. (Landwehr, 2016)	The tour operator is asked to analyse the supplier chain for the company's own canteen, long transportation routes have to be avoided. (Schmid, 2016a)
Positive	- partnerships lead to more opportunities	- aid in decision making towards more sustainability	- CO_2 emissions can be saved and at the same time regional suppliers are supported - authenticity is promoted	- saves CO_2 emissions and increase employee's health simultaneously
Negative	- it needs effort to find possible partners and to build up collaborations	- many different labels, some of them dubious	- regional products are more expensive	- food from wholefood shop is more expensive
Effectiveness / market and customer acceptance	- establishing collaborations is greatly effective to support tourism development and consequently to improve sustainability (Graci, 2012)	- customer acceptance is higher when providing labels, as guests know which quality they can expect, achieves a greater transparency (Schweizer Tourismus-Verband, 2016)	- local products are in a high demand despite the higher price, especially by tourists, as they desire authenticity during the holidays, customer acceptance is therefore high (Danielli, 2016)	- if most people bought local products, it would be a very effective way to have less CO_2 emissions (Danielli, 2016)

Measure	Employee awareness	Customer awareness	Longer stays	Consumption in head office
Chapter	7.9	7.10	7.11	7.12
Description	The employee's awareness towards CO_2 and climate change in general has to be increased. Only if the employee is personally conscious about this topic it is possible to give advice to customers. (Schmid, 2016a)	It is necessary to increase customers' awareness since many travellers are not aware of the huge impact of tourism activities towards climate change. (Landwehr, 2016)	If travellers do long distance travel, they are advised to stay at least two or three weeks. (Landwehr, 2016)	In order to improve the company's carbon footprint, many options within the head-office are possible. (Monshausen, 2016) It is for example important to promote a good recycling management and to cut back on plastic waste.
Positive	- if employee is conscious about this topic, it leads to more awareness in private and professional matters	- customers are encouraged to act against climate change	- CO_2 emissions can be saved and profit increased (especially in holiday destination)	- decisions can be taken without external third parties (customers, hotels etc.)
Negative	- time-consuming to train staff	- depending on customer´s willingness	- travellers need more time - travellers need to spend more money	- all employees must contribute
Effectiveness / market and customer acceptance	- if employees are conscious about the significance of CO_2, the own carbon footprint can be reduced and in addition the customers can be better informed and consequently their carbon footprint can be reduced as well (Schmid, 2016a)	- increasing the customers´ awareness by informing them well leads to a higher success in terms of compensating CO_2 emissions and consequently to a higher customer acceptance (Tögel, 2016)	- for long distance travel, a stay of at least two or three weeks, reduces the carbon footprint (Landwehr, 2016) - market acceptance is high as profit in destination can be increased (Spotts & Mahoney, 1991, S. 24-31)	- the CO_2 emissions can be considerably reduced within the office area to reduce the tour operator´s carbon footprint (Schmid, 2016a)

Measure	Business travel	Compensation by the customer	Cooperation with myclimate
Chapter	7.13	7.14	7.15
Description	What also has to be considered is to examine the company´s own business trips. Monshausen (2016) mentions business flights have to be avoided or at least a compensation has to be done.	It is essential to inform customers about compensation possibilities. If there are no possibilities to adapt to climate change or reduce CO_2 emissions, customers should be encouraged to do compensation. (Danielli et al., 2016)	myclimate is a partner for effective climate protection, locally and globally. They pursue this as a science-based and business-orientated non-profit organisation. (Foundation myclimate, 2016e)
Positive	- easy to implement	- it is easy to integrate a CO_2-offsetting calculator on the website	- less administrative effort for the tour operator itself - myclimate has a great experience in travel industry
Negative	- depending on the distance, a greater expenditure of time is required	- customer must be willing to pay an offset fee	- additional costs will be incurred
Effectiveness / market and customer acceptance	- the carbon footprint of a tour operator can be greatly reduced by avoiding business flights (Monshausen, 2016)	- if tour operators integrate compensation into their booking system in a user friendly way, the customer acceptance is high (Landwehr, 2016)	- customer acceptance and effectiveness is higher if there is a reliable organisation behind (Danielli, 2016)

Source: Table by the author

8 Switzerland Travel Centre

8.1 About

The Switzerland Travel Centre Ltd. is a company of the Swiss Federal Railways (SBB), Switzerland Tourism, the Swiss Hotel Association and a number of private regional railways. STC is the expert for holidays and tours in Switzerland and offers a comprehensive programme of holiday packages, scenic rail journeys, city breaks, hiking tours and individual, tailor-made itineraries around Switzerland. STC is a member of ABTA, ATOL and IATA and the offices are located in Zurich (CH), London (UK) and Stuttgart (D).

As the regions of Switzerland are, as well STC's programmes are remarkably diverse. They offer an ideal combination of accommodation, transport and activities to enable to experience some of the true magic of Switzerland. An alpine resort can be combined with a city package, a scenic rail journey can be enjoyed – Glacier Express, Bernina Express or Golden Pass - across a magnificent mountain scenery. Some spectacular excursions can be added – Jungfraujoch, Schilthorn, Pilatus, Titlis or Rigi, the Queen of the Mountains and a personal itinerary can be created. STC also arranges scheduled flights to all major airports in Switzerland – Zurich, Geneva, Basel, Berne and Lugano. Alternatively, STC also offers international train connections from all major European cities. (Switzerland Travel Centre UK, 2016)

This study has been carried out for the office in London, UK. STC UK offers B2B and B2C services; it is an inbound operator, tour operator, travel agency and an online operator. It also serves as an information centre for Switzerland Tourism.

Cooperation with Climate Care

During the years from 2008 until 2010, STC UK teamed up with an environmental organisation, Climate Care[5]. STC UK used to add £ 1.70 per person to their packages. This contribution would go at the end of the year to the ClimateCare organisation and its projects. Customers could opt out of the charge but 99% agreed to pay it. When STC UK had a change in management, the cooperation has no longer been pursued as it did cause extra administration work. At the same time, the ATOL fee had to be introduced as a separate item, which made it sound like too many fees on top of the pricing. Figure six shows the information STC UK used to have on their website during the above-mentioned years. (Luehr, 2016)

[5] https://climatecare.org

Figure 6: Information Climate Care on STC UK's website

Climate Care

We at Switzerland Travel Centre know of the damage travelling causes to the environment. As you may be aware, air travel releases gases that contribute to global warming, such as carbon dioxide. In fact, your flight will be the largest environmental impact of your holiday.

We've teamed up with an **environmental organisation, Climate Care**, to help you to repair the damage your holiday does to the climate. Climate Care funds **sustainable energy and forest restoration projects** that reduce carbon dioxide on your behalf, by the same amount as your share of the plane emits.

Examples include **a project in India** to help schools move on to renewable cooking fuel and **a project in Uganda** that is restoring the rainforest in Kibale National Park.

The cost of "offsetting your emissions" for a return flight to Switzerland is **just £1.70 per person and we included this amount in all our package prices**. If you would prefer not to pay this contribution, then just let us know at the time of booking and we will deduct it from your invoice.

Project information

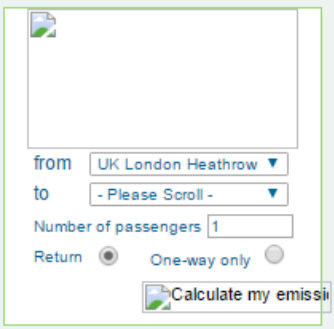
Climate Care supports a mix of projects that include energy and forest restoration projects across the world:

Clean stoves in Mexico
Our project is working in Mexico to make fuel efficient cooking stoves available in some of the poorest communities. This supports conservation by reducing the wood needed for cooking. It also benefits the householders by removing smoke from the kitchen and dramatically cutting the health risk from wood smoke. Each stove saves about 3 tonnes of CO2 a year.

Treadle pumps in India
In the Chhattisgarh region of India, irrigation is vital for farmers to grow crops outside the monsoon season, and ensure an income all year round. Many farmers have to rent diesel pumps at a significant cost to them. By using manual power instead of diesel, each treadle pump reduces diesel fuel use by 0.45 litres per hour on average, saving 0.65 tonnes of CO2 per year. Farmers have also seen their annual income double.

Rainforest restoration in Uganda
We are funding part of a forest restoration programme in the Kibale National Park in Uganda. The project aims to re-create a rainforest canopy by planting and managing 30 species of local trees. The area is an important wildlife habitat – with one of the highest number of primate species in the world - and the project provides employment for local communities. The project is expected to save 400 tonnes per hectare of rainforest each year.

>> FAQs



Source: (Switzerland Travel Centre UK, 2008)

Importance for STC UK to act against climate change

Perrot (2016), Kolb (2016) and Robb (2016) share the opinion that it is important for any industry, amongst others for the travel industry, to reduce the carbon footprint. Robb (2016) says that the debate surrounding global warming raises many points that as current leaseholders of this planet everybody should take notice of. He thinks that the question whether global warming is man-made or just part of earth's natural cycle is questionable but the issue of whether global warming is real or not is very clear. In his opinion, it is very real and the humanity is not doing enough. He says the tourism industry is huge and has the ability to encourage more people or business sectors to look at what they are doing to reduce their carbon footprint. Perrot agrees to Robbs's opinion. She believes it is important that companies advertise this importance and offer the clients options to reduce their carbon footprint. Tour operators should take their responsibility to offer such options to clients and should try to educate the consumer. In her opinion, STC UK should be an example therefore. (Perrot, 2016) However, Kolb (2016) points out that it will only be possible to achieve a change if the majority of industries are reducing their carbon footprint. He says that as long as the public opinion is not more focused on these issues, the travel industry will tend to fall short of developing a sustainable "greener" approach. That is because most of the activities have a financial impact and as travel is very competitive and price-sensitive, nobody can afford to be less attractive and the "green aspect" still has less weight than a cheaper price. Nevertheless, in Kolb's opinion, the responsibility to act against climate change lies on both the tour operator and the traveller. The tour operator should try to develop a carbon neutral approach and the consumer should honour such an initiative by selecting and buying these products.

8.2 Measures

The following table four shows all measures, which have been developed in chapter seven, again. Based on interviews and personal messages of managers and the head of STC UK as well as personal experience from the author, analyses have been made about the acceptance of STC UK for these measures. Two main questions were considered. In a first step, it has been examined if STC UK currently does anything related to the correspondent measure and secondly, what a next step would be. In a second step, it is demonstrated with symbols if the correspondent measure is generally feasible or not for STC UK.

Table 4: Measures in conjunction with STC UK

Measure	Climate protection project	Train	Collaboration with destinations	Collaboration with environmentally friendly hotels
Chapter	7.1	7.2	7.3	7.4
What does STC UK?	STC UK does not do anything related to such a project. As it is very costly, such a project is likely to be implemented by a big tour operator with a financial power that is higher than of a company of STC UK's size.	As train journeys are STC UK's main segment, this point is already very good. They push everything by rail, they push people to take the train in Switzerland. In the "Scenic Rail Brochure", only train holidays are offered. For STC UK, the train is very important. However, they do not do the step to promote this clean mean of transport towards the climate change and environment to the customers. (Perrot, 2016)	STC UK does have special partnership with most of the regional tourism and destination boards in Switzerland. They get special offers and prices and most importantly contact with local suppliers and tourism products. (Perrot, 2016)	STC UK already has collaborations with environmentally friendly hotels. They have a very good relationship with the Sunstar Hotels (mentioned in chapter 7.4). In STC UK's brochures, these hotels are offered in nearly all the destinations where they are present. Destinations as Wengen, Grindelwald and Zermatt are very popular and are used for FIT clients but also for groups. (Perrot, 2016)
Next possible step	-	STC UK should strongly promote the main segment, rail holidays, in the future. In addition, STC UK can try to promote more journeys to Switzerland by train and relationships with train companies can be expanded.	-	-
Feasible?				

Measure	Collaboration with stakeholders	Labels	Regional products	Canteen food
Chapter	7.5	7.6	7.7	7.8
What does STC UK?	STC UK already works in collaboration with many suppliers, for example with the Sunstar Hotels. (Perrot, 2016)	STC UK does not especially take into account any labels, which promotes a sustainable tourism development.	STC UK already promotes local products, especially by offering dinners with locals in Switzerland. As they want more traditional products from Switzerland in their offers, they try to diversify the tools they have. Therefore, people in the villages benefit as well. STC UK's customers have the possibility to book a dinner at "Swiss Tavolata" or "Dinner at home" in Interlaken. (Perrot, 2016)	As STC UK does not have an own canteen, this measure is not very suitable.
Next possible step	-	"Ibex fairstay" is a label for sustainability management in accommodation businesses in Switzerland, which could be taken into account for future hotel contracting.	-	A possibility would be to buy the food for the breakfasts after the monthly meeting in a wholefood shop or at least to make sure that the responsible employee buys seasonal food.
Feasible?				

Measure	Employee awareness	Customer awareness	Longer stays	Consumption in head office
Chapter	7.9	7.10	7.11	7.12
What does STC UK?	Also concerning employees, rail is well promoted. Employees have the possibility to obtain a special rail card with discounts for people who commute by rail. They have also rail cards, with which employees can travel all over the country for leisure at the weekends. STC UK has a good waste management, employees have to recycle their waste. (Perrot, 2016)	STC UK does not currently offer any specific ways or information for their clients to compensate and it does not happen that clients inquire this directly. (Robb, 2016) On STC UK's website, there is currently no information about the impacts of climate change.	Especially for long distance travel by plane, it is important to promote longer stays. As STC UK is a specialist for holidays in Switzerland, they do not offer any long-haul holidays to their customers.	STC UK already does have a good waste management. They have different recycling options; they do it together with the local council. (Perrot, 2016)
Next possible step	To sensitize STC UK employees', workshops could be organized, especially for the ones who work on the counter. On a next Fam-Trip to Switzerland, a visit to the Environment Centre in Spreitenbach could be made.	Information about sustainable travel and concrete offers has to be provided. It could be mentioned on STC UK's new website, which should go live by the end of the year. (Luehr, 2016) Also in the travel documents, information should be provided.	-	A next step would be to cut back on the use of plastic, e.g. for travel documents and to scrutinise the production of catalogues (quantity and paper quality).
Feasible?				

Measure	Business travel	Compensation by the customer	Cooperation with myclimate
Chapter	7.13	7.14	7.15
What does STC UK?	For business trips within the UK, STC UK's employees always go by train. STC UK provides first class train tickets for all employees, which can be used for business trips (and on the weekends for leisure). For business trips to Switzerland, employees go by plane most of the time. Usually they fly Swiss and economy class. (Perrot, 2016)	STC UK does not currently offer any specific ways to their customers to compensate CO_2 emissions. (Robb, 2016)	There is currently no partnership between STC UK and myclimate.
Next possible step	Whenever possible, business trips should be done by train. If that is not possible, business class travel should be avoided in order to provide a higher seat density.	On STC UK's new website, which possibly will go live by the end of the year, information about compensation could be added and a partnership with myclimate could be made.	STC UK could enter into a partnership with myclimate to provide their customers with a possibility to compensate CO_2 emissions.
Feasible?			

Source: Table by the author

Legend:

 This measure is feasible for STC UK.

 This measure is rather not feasible for STC UK.

 This measure is not feasible for STC UK.

8.3 Recommendations

As chapter 8.2 shows, STC UK's operation already meets principles towards sustainable travel, which includes actions against climate change. Amongst others, they push rail holidays, which is one of the most ecological type of travel. However, how also Perrot (2016) mentioned, they do not do the step to advertise it as sustainable transport. STC UK's new website is expected to go live by the end of this year. (Luehr, 2016) As Perrot (2016) said, this new website is a great opportunity to put a message in terms of climate change on it and to go even further. All principles STC UK already meets in terms of sustainable tourism should be illustrated on this new website.

With the opinions and information of the managers Emmanuelle Perrot, Nick Robb and Kristina Luehr and the head of STC UK, Helmut Kolb, recommendations are following on how STC UK could be more effective in terms of sustainability, the most suitable measures for STC UK are listed. The analysis is based on the measures, which have been elaborated in chapter seven. They have been examined about their effectiveness, their market and customer acceptance and have been analysed in conjunction with STC UK in chapter 8.2.

Train

As scenic rail holidays are already one of STC UK's main segments, and the train is a clean mean of transport, this should absolutely be promoted on the website. As Kolb (2016) says, STC UK is very willing and interested to promote green products, as for example rail travel. As this step has already been taken, customers will be more aware of the issue of environmental protection by rail travel if it is promoted on the website. However, not only rail journeys within Switzerland should be promoted. Robb (2016) says that STC UK's clients travel more by rail to Switzerland than ever before and that this is a choice by their clients. If this was promoted on the website, even more clients could be interested in travelling to Switzerland by train. In no other country on earth, the inhabitants cover more kilometres per year by train than in Switzerland. Together with the fact, that Switzerland provides a train every 12 minutes on a 3'000 km network; these are suitable information to promote train journeys even more. (SCIB, 2016c) Also for competitions where the winner wins a trip to Switzerland, the journey should be offered by train.

More information can be found in chapter 7.2.

Customer awareness

As Landwehr (2016) points out, many travellers are not aware of the huge impact of tourism activities towards climate change. This is why information about sustainable travel and concrete offers has to be provided on STC UK's website. Travellers are contributors to climate change and for this reason, they are highly required to act against it. Also in Kolb's (2016) opinion, the responsibility to act against climate change lies with both the tour operator and the traveller, but the consumer should honour such an initiative by selecting and buying these products. Information about sustainable travel and the concrete provision of services (journey, accommodation, and package) has therefore to be provided on the website. However, information should also be provided in the travel documents, which STC UK sends out to the customers before the journey. A note about the possibilities of the environmental protection, as for example the compensation of CO_2 emissions or the importance of buying local products, should be added. In addition, information on all other measures, which STC UK already takes into account, should be mentioned. The customer can take the time and individually decide if he wants to compensate or reduce his CO_2 emissions. STC UK should also mention that a CO_2 emission compensation could also be done after the journey. Sometimes, travellers are more aware of their responsibility to protect the environment when they saw and experienced the landscapes. (Schmid, 2016a)

It is essential to communicate information related to sustainability in a way that reaches consumers at the emotional level. According to a study of the University of Applied Sciences in Lucerne (Wehrli, et al., 2013), companies can increase the emotionality of their sustainable tourism marketing texts by including narratives which directly address the consumer, actively formulated texts and the use of strong adjectives as "perfect" or "superior".

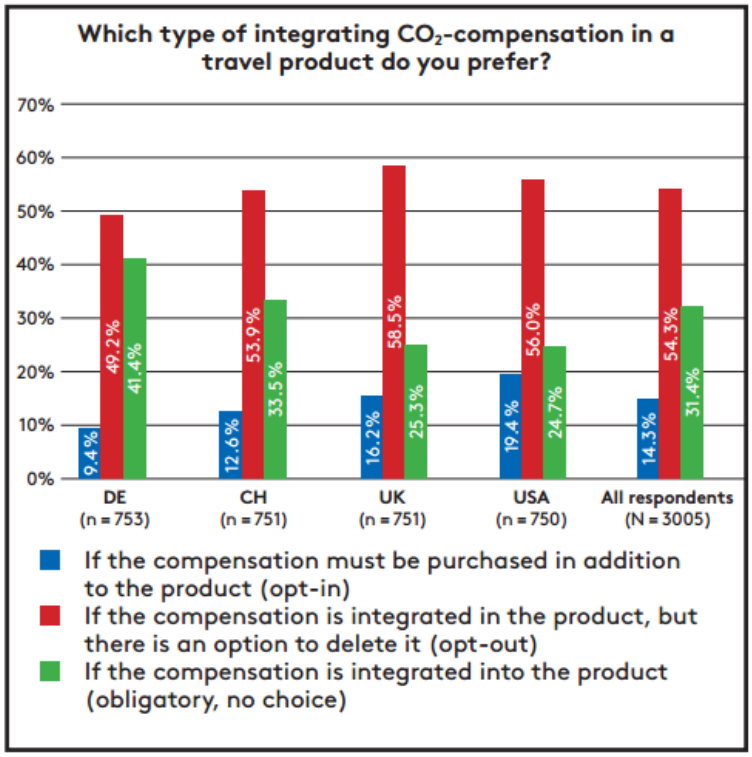
More information can be found in chapter 7.10.

Compensation with myclimate

Myclimate offers different options to become a partner and has a lot of experience within the travel sector. Regarding the effort and price, the best option for STC UK is the CO_2 calculator for travellers, which means they can compensate flights and accommodations. As Kolb (2016) explains, the financial power of a company of STC UK's size is rather limited, a loose partnership with myclimate, where you can integrate a calculator on the website, is the easiest and cheapest way. Luehr (2016) said one reason STC UK stopped the collaboration with Climate Care was because of the extra administration work. With such a loose partnership with myclimate, all the compensation work is done by myclimate, STC UK would only give the connection to the customer and myclimate is doing the rest.

There is also a closer partnership available, where STC UK could tell their customers what they are doing. This is interesting because tour operators are in touch with many people and it would be very valuable in terms of sensitize these people. To set up such a smaller partnership with myclimate the price would be a few thousand francs. (Landwehr, 2016) Despite Kolb's (2016) doubts about compensation schemes, this option is recommended by most experts. Also in Robb's (2016) opinion, any person travelling by air should automatically pay an additional amount to reduce the carbon footprint of their journey. Such a CO_2 calculator can easily be integrated in STC UK's online booking system. According to the study of the University of Applied Sciences in Lucerne (Wehrli, et al., 2013), about two thirds of the respondents would like if their travel product included a CO_2 emission compensation for the flight. In the UK, which is STC UK's main target group, 69% of the respondents shared this opinion. The offsetting of CO_2 emissions can be integrated into a travel product in various ways. The following figure seven shows, UK consumers prefer the opt-out option, where compensation is integrated in the product, but consumers have the possibility to delete it. (Wehrli, et al., 2013)

Figure 7: Types of integrating carbon offsetting in a travel product

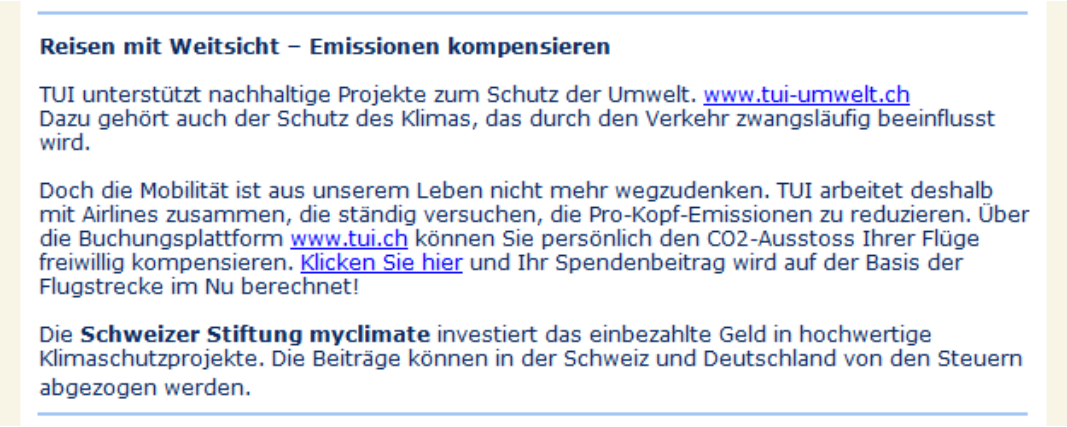


Source: (Wehrli, et al., 2013)

Also not to include the price of the compensation directly in the package price recommends Schmid (2016a). As Switzerland is already very expensive as a holiday destination, with the inclusion of the compensation fee, Switzerland would be far away of the international market and the risk exists that the client would not book a holiday at all. Also Robb says that STC UK would need to give the customers the option to opt out. He believes that an amount of about £2.50 per person would be acceptable to most people, also in regard of STC UK's main target groups, which include elderly people with a disposable income and a higher spending level. (Robb & Perrot, 2016) Luehr (2016) confirms this statement. By the time STC UK had a cooperation with Climate Care, customers could opt out but 99% were willing to pay for it.

What is hugely important is that this compensation process is integrated in a smart and easy way in the booking process. If a customer does the whole booking process including the payment and only after that, the possibility to compensate is popping up and the customer would have to do a new process and a new payment, most people drop off; just a few people will do this. However, if it is integrated, a lot of people will do it. Figure eight shows a text example (in German) on how TUI Switzerland[6] draws attention to their clients for a CO_2 compensation, which is integrated in the booking process.

Figure 8: Example TUI.ch



Source: (Schmid, 2016b)

[6] http://www.tui.ch/

Myclimate is offering its services on a global scale, it is therefore possible to work together with them even if STC UK is based in England and not in Switzerland. (Landwehr, 2016)

More information can be found in chapter 7.14 and 7.15.

Employee awareness

Only if the employees are personally conscious about climate change it is possible to give advice to customers. It is therefore important for STC UK, to increase their employee's awareness towards CO_2 and climate change in general. (Schmid, 2016a) This can be done for example with a workshop on the issue of sustainability in tourism or STC UK's employees could visit the Environment Centre (Umweltarena) in Spreitenbach on a next Fam-Trip to Switzerland.

More information can be found in chapter 7.9.

Conclusion

The first part of this study gives an idea about the importance to reduce the carbon footprint for everyone and any industry. As tourism is considered as one of the main contributor to the climate change, it can play a significant role in achieving goals to change the climate. The tourism industry is huge and has therefore the ability to send out a message and to encourage more people or business sectors to look at what they are doing to reduce their footprint. This study shows different measures, which can be taken into account by a tour operator to decrease the touristic climate impact. They range from promoting train and increasing customer and employee's awareness to starting an own climate protection project. Based on literature reviews and interviews with travel and sustainability experts, these measures have been developed and analysed regarding their effectiveness as well as their market and customer acceptance. The results of these analyses show different assets and drawbacks for each measure. Based on these outcomes and interviews with managers and the head of STC UK, recommendations have been formulated how STC UK could best reduce its climate impact.

Even though STC UK already considers some measures, there is still a lot of potential to change some operations so that CO_2 emissions will be decreased and the carbon footprint increased. STC UK's new website is expected to go live by the end of this year, which poses an optimal opportunity to put a message in terms of climate change on it and to take a step forward: promoting the train as a clean means of transport, increasing the awareness for protecting the environment of customers and employees and to become a partner with myclimate to provide a possibility that customers can compensate their CO_2 emissions.

Although this research generates possible measures, which can be considered by a tour operator to reduce its carbon footprint, the results should take into account the following limitations: the study was limited in time and therefore the amount of expert interviews has been limited to the number of nine. Moreover, due to the time restriction and the complexity of the climate change issue, the amount of information had to be limited to a large extent and due to time limits during the interviews, not all measures have been analysed on exactly the same criteria.

Future research could involve a quantitative research in the form of a survey with customers of STC UK. Therewith, it could be analysed if people are aware of the climate change issue in general and to which extent they would be willing to lower their climate impact and decrease their carbon footprint.

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Appendix I: Interview guide 1

Date:

Name:

Company:

Position:

1. Would you mind to describe your position and tasks in your company?

2. I read a lot about the relation between tourism and climate change and the discussion if tourism is more likely a victim or a contributor – what is your opinion to this issue?
3. What is your view of the importance of the travel industry to reduce the carbon footprint?
4. For a tour operator who wants to do something against CO_2 emissions, where should lie the focus: adaptation, compensation or the reduction of CO_2 emissions?

5. What are possibilities for a tour operator to adapt/reduce/compensate CO_2 emissions?
   - How effective is this measure? In relation to CO_2 emissions saving?
   - How easy is it to implement this measure, how much effort does it take? And how much time is needed?
   - What are the costs to implement this measure?
   - Would clients be willing to do it? How is the customer acceptance?
   - How popular is this measure?
   - What does the future look like for this measure?

6. Which are the most popular compensation/reduction measures within the tourism industry? And why?
7. What has been done by your company as a CO_2 compensation, reduction or adaptation in the past but also at present? Are there any plans for the future? Something new, something different or something you do not want to do anymore?
8. How about business trips in your company? Do you have many of them? Do you compensate the CO_2 emissions?

9. In general, are travellers willing to pay something to compensate CO_2? Which target group most likely? What do you think is the future trend?

10. To what extent can a company's image be improved through such methods?

11. Can you name some political framework which goes in the direction to force the economy or/and travellers to more activities related to the compensation or reduction of CO_2 emissions?
12. What makes more sense – voluntary participation or law?
13. How strong is the willingness from the tourism industry to act against the CO_2 emissions? And where is the problem in the implementation?

14. While I was reading articles, I came across some points of critic:
    - One is the "Selling of indulgences". People do not change their lifestyle as they can pay for their CO_2 emissions (CO_2 compensation for e.g. flights). What is your opinion about this subject?
    - I read that forestry projects are not very sustainable, e.g. they can burn very quickly and release all CO_2 again. – What do you think about this kind of projects?

15. Which experiences have you personally made in the past concerning CO_2 compensation or reduction? Personally in your own travel habits?

Appendix II: Interview guide 2

Date:

Name:

Company: Switzerland Travel Centre UK

Position:

1. Would you mind to describe your position and tasks at STC UK?
2. Which are STC UK's main target groups for holidays in Switzerland?
3. Do you also offer business travel?

4. What is your view of the importance for the travel industry to reduce the carbon footprint?

5. I know that STC UK worked together with Climate Care in the past. What has been done by STC UK exactly? Why did you stop your partnership with Climate Care? Have your clients been willing to pay a contribution?

6. Which possibilities do you currently offer to compensate CO_2 emissions?
7. Which possibilities to compensate CO_2 emissions do you know? And which providers with who you could work together to compensate CO_2 emissions?
8. Do you have partnerships with rail companies in the UK and France? Do you have special offers, also in Switzerland? If yes, which ones?
9. To which extent do you promote public transport in Switzerland?
10. How often do you sell overnights at the Sunstar Hotels?
11. How often does it happen that clients ask for a possibility to compensate CO_2 emissions?
12. Where do you see the responsibility (and financial support) to act against climate change – is it the tour operator or the traveller itself?

13. To what extent would STC UK be willing to implement a measure in the future to help compensating or reducing CO_2 emissions?
14. How many measures would STC UK be willing to implement?
15. What amount of costs would STC UK be ready to pay for measures?

16. At the office, what are you doing to reduce CO_2 emissions in general?

17. Are you already taking measures to adapt to climate change?

18. Do you have many business trips? Do you compensate the CO_2 emissions? Do you take the plane or train to go to Switzerland or other destinations? If you take the plane, do you fly first, business or economy class? With which airline are you flying?

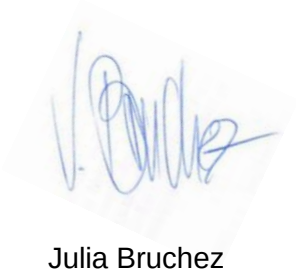
19. In general, to what extent do you think would your customers be willing to pay something to compensate or reduce CO_2 emissions? What kind of contribution most likely?

20. How sensitive are British and Australian travellers to prices? And how sensitive to climate change?

21. What is your opinion to the political responsibility, should the government act against climate change? For example in the airline industry?
22. What kind of political measures would you, as STC UK, convince to set measures against climate change and CO_2 emissions?

Author’s declaration

I hereby declare that I have carried out this final research project on my own without any help other than the references listed in the list of references and that I have only used the sources mentioned. I will not provide a copy of this paper to a third party without the permission of the department head and of my advisor, including the partner company with which I collaborated on this project, with the exception of those who provided me with information needed to write this paper and whose names follow: Danielli Giovanni, Kolb Helmut, Landwehr Kai, Luehr Kristina, Monshausen Antje, Nick Robb, Perrot Emmanuelle, Schmid Roland, Tögel Florian.



Julia Bruchez